

# HAFFMANS c-TPO SELECTIVE INPACK TPO/CO<sub>2</sub> METER

## GENERAL PRODUCT INFORMATION

In the beer and beverage industries it is important to control the levels of carbon dioxide (CO<sub>2</sub>) and oxygen (O<sub>2</sub>) in the packaged product. Oxygen pickup needs to be minimized to prevent a negative influence on shelf life and flavor stability. Carbon dioxide is a key parameter of beer and carbonated beverages and plays an important role in the product's freshness and flavor enhancement.

When breweries use nitrogen assisted filling instead of CO<sub>2</sub>, the existing methods for measuring the CO<sub>2</sub> content are unreliable. Nitrogen gas in the (filled) package interferes with the dissolved CO<sub>2</sub> content measurement. This can result in a product that is not compliant with required CO<sub>2</sub> levels.

To overcome this, the automatic Inpack TPO/CO<sub>2</sub> Meter, type c-TPO Selective offers Selective CO<sub>2</sub> Measurement using Henry's Law in combination with optical technology. It is suited for the most common sizes of bottles and cans.

Furthermore, the c-TPO Selective provides differentiated measurement of Headspace Oxygen (HSO) and Dissolved Oxygen (DO), which provides immediate insight on the performance of the filling operation. Beyond traditional TPO measurement (DOxZ) also HSO+DO is used to measure the O<sub>2</sub> content in the liquid and gas phase. This results in a more specific identification of the oxygen source, which can be in the production (DO) or filling process (HSO).

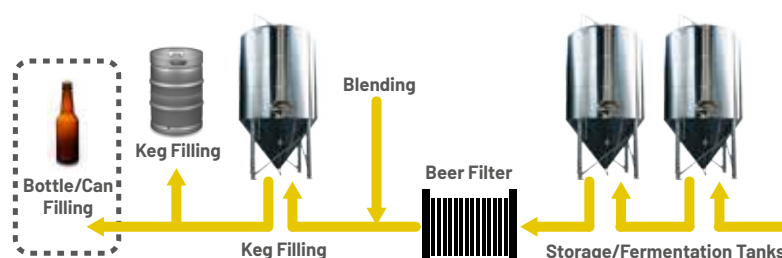


## CUSTOMER BENEFITS

- **Process control - fast problem solving**
- **Low maintenance cost**
- **High reliability**
- **Accurate insight in real CO<sub>2</sub> values when using other cases**
- **Increased accuracy**
- **Operator independant measurement**

## APPLICATIONS

- **When N<sub>2</sub> is used in the filling process to pre-rinse the packages**
- **When N<sub>2</sub> is used in the production process as ingredient**



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## TECHNICAL DATA

### MEASURING RANGE

TPO	∞
HSO	0.00 – 4.18 % (V/V)
DO	0.000 – 2.000 ppm (w/w)
CO <sub>2</sub>	2.0 – 15.0 g/l

### TPO calculation

HSO + DO or DO x Z

### Accuracy

O <sub>2</sub> HS	±(0.002% (V/V) + 2% of m.v.)
DO	±(1 ppb (w/w) + 2% of m.v.)*
CO <sub>2</sub>	± 0.1 g/l

\* at 20 °C

### Memory capacity

Up to 250 measurements

### Bottle dimensions

Height	min. 90 mm - max. 440 mm
Diameter	min. 55 mm - max. 200 mm

### Can dimensions

Height	min. 80 mm - max. 195 mm
Diameter	min. 50 mm - max. 73 mm

### Power Supply

80-240 V / AC 50-60 Hz

### Interface

USB, barcode reader

### Dimensions

max. 550 x 330 x 1120 (LxWxH mm)
min. 550 x 330 x 680 (LxWxH mm)

### Weight

40 kg

## SCOPE OF SUPPLY

- Inpack TPO/CO<sub>2</sub> Meter, type c-TPO Selective
- Main cable
- Service set with piercers and sealing rubbers
- Software set (CD + Interface cable)
- Instruction manual

## OPTIONS

- Certificate of measurement
- PET bottle holder
- Barcode reader



### HAFFMANS B.V.

P.O. BOX 3150, 5902 RD VENLO, NETHERLANDS WWW.FOODANDBEVERAGE.PENTAIR.COM

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